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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,290	09/19/2003	Fazal U. Syed	81044518/201-1495	2289
28395	7590	04/19/2006	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			VANAMAN, FRANK BENNETT	
			ART UNIT	PAPER NUMBER
			3618	

DATE MAILED: 04/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/605,290

Applicant(s)

SYED ET AL.

Examiner

Frank Vanaman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) 8,9,11,18 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7, 10, 12, 13, 15-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **Status of Application**

1. Applicant's amendment, filed Feb. 2, 2006, has been entered in the application. Claims 1-13, and 15-19 are pending, claim 14 having been canceled. Claims 1-7, 10, 12, 13, 15 and 16 are under examination, with claims 8, 9, 11, 18 and 19 withdrawn from consideration.

### **Claim Rejections - 35 USC § 112**

2. Claims 2-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 2-6, it is not clear what particular further method limitations are being set forth.

### **Claim Rejections - 35 USC § 102**

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 1-4, 7, 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Frank (US 6,116,363). Frank teaches a hybrid vehicle which includes a power unit (engine 14), a plurality of energy storage devices (batteries 28), a transmission (18), a state machine (part of 30) connected at least to a battery state of charge determining device, which machine can control battery charging based on a series of decisions (figure 3), the machine including an off state (line 280), an on state (line 250) and including a region which may be defined as opportunistic (region between lines 280 and 250), the different states being related to a parameter (in this case Depth of Discharge - the inverse of state of charge - note a 0% state of charge corresponds to a 100% depth of discharge) which may include an "off" value (DOD or inverse of SOC corresponding to that along line 280) and a "min" value (DOD or inverse of SOC corresponding to that along line 250), wherein an "on" value may be defined as a value between the off and min values, wherein the state of charge or depth of discharge values are varied based on vehicle speed, and further wherein:

(a) when the machine is in an 'off' state, and the SOC (inverse of DOD) parameter is less than that associated with an 'on' value, the operation of the machine is characterized by being in an opportunistic state and the power unit, if already on, is

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maintained in an on condition; (b) if the machine is in an 'on' state and the SOC (inverse of DOD) parameter is greater than an on level the machine is characterized by being in an opportunistic state; (c) if the machine is in an opportunistic state (between lines 280 and 250) and the SOC parameter is less than a 'min' value (i.e., DOD is greater than the condition defined by line 250) then the machine is in an 'on' condition; and (d) wherein then the machine is in an opportunistic state and the parameter of SOC is greater than the off level (i.e., DOD is less than the condition defined by line 280) then the machine is in an 'off' state; the reference to Frank teaching that the opportunistic region may be defined by overlapped thresholds or by time delay.

### **Claim Rejections - 35 USC § 103**

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 5, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank. As regards claim 5, the reference to Frank fails to specifically teach the parameter being a discharge power limit of the battery, however inasmuch as the discharge power limit of a battery and the state of charge may be mathematically related to state of charge or depth of discharge, it would have been obvious to one of ordinary skill in the art at the time of the invention to employ a discharge power limit rather than a state of charge for the purpose of providing more accurate or precise control method. As regards claim 10, the reference to Frank fails to explicitly teach a request to leave the power unit off if already off, or on if already on. Inasmuch as control loops performed by vehicle control systems periodically update the status of control variables (note figure 3), and thus the reading of such variables is performed periodically, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the status of the power generation request (either 'on' or 'off') periodically, for example at least at the time of transition of the measured control variable (i.e., the SOC) from one region to another. As regards claim 15, the reference to Frank fails to explicitly teach the use of a 'don't care' request, however it is very well known to use variable flags to indicate the condition of a variable with change of another variable, and as such, it would have been obvious to one of ordinary skill in the art at

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the time of the invention to provide a 'don't care' variable, for example in the form of a 'status unchanged' flag, for the purpose of programming diagnostics.

7. Claims 6, 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Frank in view of Kuang et al. (US 6,603,215). The reference to Frank is discussed above and while teaching the use of different state of charge values associated with different speed ranges fails to teach the modification of the values at which the various machine states are triggered by a change in transmission state, or particularly wherein the transmission is placed in a reverse position. Kuang et al. teach that it is well known to adjust the control of an engine (24) by a controller (46) to charge a battery (36) based on its state of charge, and teaches that a change in the control scheme may be had when the transmission state is changed (step 62). In that a vehicle speed range for each gearing of a transmission is well known and well established, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the state of charge values taught by Frank to be adjustable based on vehicle speed by transmission gear or speed ratio, with a selected set of state of charge values associated with each particular speed ratio, for the purpose of saving memory space in the lookup table which determines state of charge or depth of discharge as a function of vehicle speed (i.e., having an entry for each of the transmission's forward and reverse speeds, rather than numerous entries for each possible vehicle speed).

#### **Response to Comments**

8. Applicant's comments, filed with the amendment, have been carefully considered. As regards the rejection of claims 2-6 under 35 USC §112, second paragraph, applicant is reminded that the claims under examination are method claims. Claims 2-6 do not recite any method limitations, and as such, these claims do not further limit the method steps set forth in the claim(s) from which they depend. Inasmuch as they do not further define the method steps of the claim from which they depend, it is not clear at all how they further refine or limit the method steps. The examiner notes that apparatus limitations may serve to further define a venue in which method steps are performed, or to provide a meaningful context for the method steps, however as regards claims 2-6, this does not appear to be the case.

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Applicant's arguments directed to the prior art of record as applied to the claims have been carefully considered. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., particularly the characteristics of the opportunistic region) are not recited in the rejected claim(s) to the level of detail which applicant argues. Applicant has dismissed the region relied upon in the reference to Frank ('363) as conventional hysteresis, however applicant is reminded that the reference meets the claim limitations to the breadth that they are actually recited. Please note that although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is not appropriate for an examiner to read unclaimed limitations into the claims, as discussed below.

*From MPEP 2111:*

During patent examination, the pending claims must be given their broadest reasonable interpretation consistent with the specification. In *re Hyatt*, 211 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In *re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969) The court explained that "reading a claim in light of the specification, to thereby interpret limitations explicitly recited in the claim, is a quite different thing from 'reading limitations of the specification into a claim,' to thereby narrow the scope of the claim by implicitly adding disclosed limitations which have no express basis in the claim." The court found that applicant was advocating the latter, i.e., the impermissible importation of subject matter from the specification into the claim.). See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).

### **Conclusion**

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry specifically concerning this communication or earlier communications from the examiner should be directed to F. Vanaman whose telephone number is 571-272-6701.

Any inquiries of a general nature or relating to the status of this application may be made through either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A response to this action should be mailed to:

Mail Stop \_\_\_\_\_  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450,

Or faxed to:

PTO Central Fax: 571-273-8300

**F. VANAMAN**  
**Primary Examiner**  
**Art Unit 3618**



4/17/06